

[\[Print Cruise Plan\]](#)Submitted on **May 24, 2005****PAGE 1****1. HEALY Cruise:****HLY-05-02/Gradinger/27Jun05-26Jul05****2. Cruise dates:****Start:** June 27, 2005 **End:** July 26, 2005

(Determined by the Cruise Number)

3. Your Name:**Rolf Gradinger****4. Affiliation:****University of Alaska Fairbanks****5. Funding Agency:****NOAA Ocean Exploration Office****6. Grant Number:****not available at this time****7. Full Address:****School of Fisheries and Ocean Sciences****8. Phone Number:****907 474 7407****9. Email Address:**

rgradinger at ims dot uaf dot edu

10. Fax Number:**907 474 7204****11 Date and Time to Start Loading:****in Barrow ideally on July 26, 2005****12. Estimated Time Needed:****1 day****13. Special Requirements for Loading or in-port logistics:****Yes****13b. If yes, Please list point of contact for in port logistics:****Russ Hopcroft (hopcroft@ims.uaf.edu)****14. Estimated cargo size and weight to be loaded in Seattle:****24000 pounds****15. Estimated cargo to be loaded during underway port calls:****8180 pounds****15b. Cargo List:**

Four different groups with different PIs will participate in the expedition plus 2 media groups. The PIs will individually submit their cargo manifests to the Healy tracking system.

Additional File(s) Uploaded for Cargo List: 3

| [Filename] | [File Size] |
|---|--------------------|
| GEX Size Specifications 1.doc | 23552 bytes |
| HLY05_02_hazmatwhitledge.doc | 22016 bytes |
| HLY0502_cargo.xls | 9216 bytes |

PAGE 2**16. Give a brief description of the area of operations and type of work to be done and science objective:**

The major scientific objective is to improve the inventory of life in the Canada Basin.

Sampling will be conducted along the slope and within the deep Canada Basin and includes studies on all three major realms (sea ice, water column and sea floor) using traditional samplers (CTD, water sampler, plankton nets, trawl, box core, ice coring) and optical techniques (ROV, divers, camera systems).

At each station, the ROV will be in the water for about 12 to 24 hours together with about 12 hours of other sampling activities. Ice sampling and diving activities should be conducted in parallel to the already mentioned activities.

This basic schedule will change from station to station, depending on whether ice conditions allow the use of e.g. trawls and the moored camera system.

The cruise will start and end in Barrow. After leaving Barrow, we will have a first test station (st. 1 on the map) and then conduct a transect reaching from the continental slope into the deep Canada basin. The stations will be located according to water depth - if ice conditions are suitable. From the deepest station we will head northwest covering another deep-sea/slope gradient. Stations 10 to 12 are located in the so-called pockmark area with specific bathymetric features. On the way back to Barrow three more stations

will be conducted along the slope and in Barrow Canyon (station 15). The deep sea stations have the highest priority for our expedition.

17. Total Number of People in Your Party: 46

18. If your cruise involves any of the following, please check below:
(Items marked * Require advance approval.)

| Items | Check |
|---|-------|
| Multiple PI or Institution Cruise: | Yes |
| 24 hour science operations (Night Work?): | Yes |
| Personnel Deployed on Ice: | Yes |
| Hazardous Materials: | Yes |
| Radioactive Materials: | No * |
| Gasoline to run science equipment: | Yes |
| Explosive Devices: | No |
| Flammable Gases: | No |
| Portable air compressors: | No |

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19. Diving Operations: Yes
Number of Dives: **30**
Purpose: **Collection and video-recording of life at the ice-water interface, collection of animals in the uppermost 10m of the water column during the stations.**

Will members of the science party be diving: **Yes**
Are you requesting USCG diver support: **Yes**

20. Small Boat Operations: Yes
Number of deployments expected: **30**
Purpose: **We request small boat operations as platform for dives. This is an alternative to the use of ice floes at platforms. Small boat operation can also be used as alternative to conduct work on ice floes, if Healy cannot stay with the ice party for longer time periods because of other operations.**

Range in miles from the ship: **3**
Payload size and weight: **300 lb**
Gasoline for Equipment: **needed (generator for ice work)**

21. Helicopter Operations: Yes
Passenger Transports: **Yes**
Cargo Transports: **Yes**
Payload size and weight: **500 lb**
Maximum hours/flight: **1.5**
Average hours/day: **occassional**
Number of flights: **45**
Total flight hours: **50**

Installation of sensors on
Helicopter:

No

Describe flight operations:

About 40 flights are needed for boarding and leaving the ship in Barrow.. Two additional flights are requested to bring media people (3-5 people, 200 lb cargo) onboard the Healy at station 15 about five days prior to the end of the cruise. Additional requests might come from participating media (not finally decided) and might occur if scientific material needs to be transported to the ship or back to the home labs.

Range in miles from the ship:

50-100

Max distance from the ship:

100

22. Deployment or Recovery of Moorings:

Yes

Provide the Lat/Long/Depth of
each mooring and a description:

Short-term deployments (24 hours) of a video camera are planned to the deep sea floor, if ice conditions allow for safe recovery. If ice conditions do not allow for deployment at the sea floor the camera will be deployed from the sea ice and stay just below the ice floe for about 24 hours.

Number of Moorings to deploy:

15 (max.)

Number of Moorings to recover:

15 (max.)

Min Depth:

750

Max Depth:

3800

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23. Operational plan: Cruise Tracks and Station Locations. Please provide as complete a description as possible. Include with this plan, or separately, a complete list of stations with ID, Latitude, Longitude, depth and other information such as type of sampling/operations as appropriate. Use the text box below or upload separate documents as needed.

23a. Upload a cruise track file (jpeg, pdf, gif, etc) here (required):

Cruise Track Uploaded: [arcticmap.jpg](#)

23b. Upload additional files as needed:

Additional File(s) Uploaded for Operational Plan: 2

| Filename | File Size |
|---|---------------|
| healy05_short2.doc | 1320448 bytes |
| HEALY02stationplannew.xls | 11776 bytes |

Operational Plan Description

The cruise will start and end in Barrow. After one test station (station 1), 14 stations will be sampled along the shelf-deep sea gradients in the Canada basin (see uploaded station map). Stations are defined by water depth and not location, so we will decide on final latitude and longitude positions based on the ice conditions during the cruise.

The document HEALY02stationplannew.xls is an EXCEL spreadsheet containing arrival and departure times for the 15 stations to be sampled.

Will the vessel be operating within 200 miles of a foreign country? **No**

24. Will you be contacting Native communities to inform them of your intended icebreaker research activities? **Yes**

If yes, please list the native communities and contacts:

Barrow, Alaska - contact currently established through the Barrow Arctic Science Consortium (BASC) - contacted Glenn Sheehan.

25. Will Marine Mammal Protection Act, NEPA or Endangered Species Act consultation or permitting be required? **No**

26a. Cruise Plan and Description of Operations:

Provide as much detail as possible about the type of operations and sampling to be conducted, daily schedule and hours of operation, type of equipment to be used and any other information that will help us prepare for this cruise. Use additional pages or send corrected drafts as necessary. If this is a multi-investigator cruise, please include a list of Co-PI's who will be submitting operational science plans:

See file uploaded under 23b. This plan includes the activities of all participating science groups. Additional requests might come forward from the media participation. The following PIs are responsible for the various sampling activities

Sea ice sampling: Rolf Gradinger
Pelagic primary production and oceanography: Terry Whitledge
Pelagic fauna: Russ Hopcroft (also main contact for ROV operations)
Benthic fauna: Bodil Bluhm

26b. Upload additional files as needed:

Additional File(s) Uploaded for Description of Operation: 0

|Filename| |File Size|

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27. Current Crew List

| | Name | Institution | Position | Phone/Email | Sex | Dates | Foreign Nat. | Nationality |
|----------|-----------------|--|---------------------------|--|------------|--------------|---------------------|--------------------|
| 1 | Rolf Gradinger | University of Alaska Fairbanks | Scientist | 907 474 7407 rgradinger at ims dot uaf dot edu | M | | No | German |
| 2 | Mette Nielson | University of Alaska Fairbanks | Graduate Student | 907 474 5939 nielson at sfos dot uaf dot edu | F | | No | USA |
| 3 | Shawn Harper | University of Alaska Fairbanks | Graduate Student | 907 474 5243 fssth at uaf dot edu | M | | No | USA |
| 4 | Qing Zhang | Second Institute of Oceanography, State Oceanic Ad | Scientist/Deputy Director | 0086 0571 88839374 zhangqing at sio dot zj dot edu dot cn | M | | No | China |
| 5 | Terry Whitledge | University of Alaska Fairbanks | Scientist | 907 474 7229 terry at ims dot uaf dot edu | M | | No | USA |
| 6 | Dean Stockwell | University of Alaska Fairbanks | Scientist | 907 474 5556 dean at ims dot uaf dot edu | M | | No | USA |
| 7 | Sarah Thornton | University of Alaska Fairbanks | Technician/Grad student | 907 474-7747 sarahjt at ims dot uaf dot edu | F | | No | Canadian |
| 8 | Katrin Iken | University of Alaska Fairbanks | Scientist | 907 474 5192 iken at ims dot uaf dot edu | F | | No | German |
| 9 | Bodil Bluhm | University of Alaska Fairbanks | Scientist | 907 474 6332 bluhm at ims dot uaf dot edu | F | | No | German |

| | | | | | | | |
|-----------|-------------------|---------------------------------|----------------------------------|---|-----|----|----------|
| 10 | Elizabeth Calvert | University of Alaska Fairbanks | Technician/Grad student | 907209-0630 e dot calvert at uaf dot edu | F | No | USA |
| 11 | Ian MacDonald | Texas A&M Univ. Corpus Christi | Scientist | 361 825 2234 imacdonald at falcon dot tamucc dot edu | M | No | USA |
| 12 | Richard Arena | Texas A&M Univ. Corpus Christi | Undergraduate | 361 825 2234 rarena at kestrel dot tamucc dot edu | M | No | USA |
| 13 | Sergej Gagaev | Zoological Inst. St. Petersburg | Scientist | 78123281311 gagaev24 at yahoo dot com | M | No | Russian |
| 14 | Russ Hopcroft | University of Alaska Fairbanks | Scientist | 907-474-7842 hopcroft at ims dot uaf dot edu | M | No | Canadian |
| 15 | Marsh Youngbluth | Harbor Branch Oceanographic | Scientist | 772 465-2400 x319 youngbluth at hboi dot edu | M | No | USA |
| 16 | Kevin Raskoff | Univ. Cal. Monterey Bay | Scientist | 831-582-4662 kevin_raskoff at csumb dot edu | M | No | USA |
| 17 | Jenny Purcell | Western Washington University | Scientist | 360 650-7400 purcelj at cc dot wwu dot edu | F | No | USA |
| 18 | Ksenia Kosobokova | PP Shirshov Institute | Scientist | TBA xkosobokova at ocean dot ru | F | No | Russian |
| 19 | Brenda Holladay | University of Alaska Fairbanks | Research professional | 907 474-7938 holladay at ims dot uaf dot edu | F | No | US |
| 20 | Jack Adams | Barrow Highschool | Teacher at sea | 907-852-8950 jack dot adams at nsbsd dot org | M | No | USA |
| 21 | Jeremy Potter | NOAA-OE | NOAA Coordinator | 301-713-9444 x136 jeremy dot potter at noaa dot gov | M | No | USA |
| 22 | Kelley Elliot | NOAA-OE | OE Web Coordinator | 301-713-9444 kelley dot elliot at noaa dot gov | F | No | USA |
| 23 | Steven Rutz | NOAA-OE | OE Data Manager | 301-713-9444 steven dot rutz at noaa dot gov | M | No | USA |
| 24 | Joe Bruncsak | Blue Land Media | Producer-Director | 703-486-2583 joe at bluelandmedia dot com | M | No | USA |
| 25 | Jerry Caba | Deep-Sea Systems | ROV Pilot/Technician | 508-540-6732 dssiinc at aol dot com | M | No | USA |
| 26 | Joe Caba | Deep-Sea Systems | ROV Pilot/Technician | 508-540-6732 dssiinc at aol dot com | M | No | USA |
| 27 | Mike Nicholson | Deep-Sea Systems | ROV Pilot/Technician | 508-540-6732 dssiinc at aol dot com | M | No | USA |
| 28 | Chris Nicholson | Deep-Sea Systems | ROV Pilot/Technician | 508-540-6732 dssiinc at aol dot com | M | No | USA |
| 29 | Gene Swope | National Ice Center | TBA | TBA TBA | | No | TBA |
| 30 | TBA | | Lamont science technical support | TBA TBA | TBA | No | TBA |
| 31 | TBA | | Lamont science technical support | TBA TBA | TBA | No | TBA |
| 32 | Sue Moore | NOAA | Scientist | TBA Sue dot Moore at noaa dot gov | F | No | USA |
| 33 | TBA | | Marine Mammal/birds | TBA TBA | TBA | No | USA |
| 34 | Seung-Sep Kim | Univ. Hawaii | Graduate Student | 808-956-3618 sskim at soest dot hawaii dot edu | M | No | Korean |
| 35 | Eric Mittelstaedt | Univ. Hawaii | Graduate Research Assistant | 808-554-7963 mittelst at hawaii dot edu | M | No | USA |
| 36 | Nathan Buck | IARC, UAF | Graduate Student | 907-474-2693 nbuck at iarc dot uaf dot edu | M | No | USA |
| 37 | Richard Harris | National Public Radio | Media | 202-513-2786 rharris at npr dot org | M | No | USA |

| | | | | | | | |
|-----------|-------------------|-------------------------|----------------------------------|--|-----|----|-----|
| 38 | Jesse Ausubel | Census of Marine Life | Outreach/Scientist | TBA TBA | M | No | USA |
| 39 | Clayton Sandell | Producer, ABC News | media (TV) | (202) 222-7961 clayton dot sandell at abc dot com | M | No | USA |
| 40 | William Blakemore | Correspondent, ABC News | media (TV) | (212) 456-4932 bill dot blakemore at abc dot com | M | No | USA |
| 41 | Fred Gorell | NOAA OE | Public Affairs Officer | 301-713-9444 x181 Fred dot Gorell at noaa dot gov | M | No | USA |
| 42 | TBA | New York Times | media | TBA TBA | TBA | No | TBD |
| 43 | VIP1 | Washington DC | to be determined through NOAA OE | TBA TBA | TBA | No | USA |
| 44 | VIP2 | Washington DC | to be determined through NOAA OE | TBA TBA | TBA | No | USA |
| 45 | VIP3 | Washington DC | to be determined through NOAA OE | TBA TBA | TBA | No | USA |
| 46 | Walter Rissmeyer | Blue Land Media | Producer-Director | 703-486-2583 walter at bluelandmedia dot com | M | No | USA |

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28. Please check (X) by equipment needed. If you have questions, or need assistance, please call or email the [Marine Science Technician Chief](#) or the [Marine Science Officer](#) at 206-217-6300

| Cables | Instrument(s) | Instrument Wts | Max Depth | A Frame |
|---|-------------------------|----------------|-----------|---|
| <input checked="" type="checkbox"/> .322"conducting cable (12k meters) | CTD | 200 | 3800 | <input type="checkbox"/> AFT <input checked="" type="checkbox"/> STBD |
| <input checked="" type="checkbox"/> 3/8" steel cable (10k meters) | Plankton net, box corer | 100, 700 lb | 3800 | <input type="checkbox"/> AFT <input type="checkbox"/> STBD |
| <input checked="" type="checkbox"/> .680 coax conducting cable (12k meters) | Multinet | 1000 | 3800 | <input checked="" type="checkbox"/> AFT <input type="checkbox"/> STBD |
| <input checked="" type="checkbox"/> 9/16" steel cable (14k meters) | benthic trawl | 500 lb | 3800 | <input checked="" type="checkbox"/> AFT <input type="checkbox"/> STBD |
| <input type="checkbox"/> 1/4" steel cable (14k meters) | | | | <input type="checkbox"/> AFT <input type="checkbox"/> STBD |
| <input type="checkbox"/> Spare .322 conducting cable (12k meters on spare drum) | | | | <input type="checkbox"/> AFT <input type="checkbox"/> STBD |
| <input type="checkbox"/> SeaMac portable winch-Instrument | | | | <input type="checkbox"/> AFT <input type="checkbox"/> STBD |

Will you be bringing your own winch and wire? **Yes**

Describe use, size, and weight & power requirements below:

ROV winch: 480 VAC 60Hz, 3 phase power at 45 amps peak; 25HP AC motor to start and operate ROV console (5KW 120VAC) and ROV power unit (15kw@240VAC single phase 60Hz) - not decided where to install (ROV company directly in contact with Dave Forcucci)

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29. Crane requirements:

| | Anticipated use |
|---|-----------------------------------|
| <input checked="" type="checkbox"/> Port Side Fantail Crane (Safe Working Load: 5 tons) | ROV deployment, movement of corer |
| <input checked="" type="checkbox"/> Starboard Side Fantail Crane (Safe Working Load: 15 tons) | ROV deployment, movement of corer |
| <input checked="" type="checkbox"/> 04 Deck Cranes (Safe Working Load: 15 tons) | deployment of ice team and divers |
| <input type="checkbox"/> Forecastle Crane (Safe Working Load: 3 tons) | |

Describe other lifting requirements here: (cranes have limited reach please consult the crane descriptions)
Unloading of all ROV gear in Dutch Harbor

30. Deckspace Requirements:

| | [] Vans | [x] Incubators | [x] Storage |
|---------------------|-----------------|--------------------------------|---|
| Type/Size | | 2 deck incubators: 4 by 4 feet | equipment (trawl, corer, cargo pallets) |
| Location | | No response | No response |
| Water Req | | No response | |
| Seawater Req | | No response | |
| Power Req | | No response | |

Describe all other Deckspace requirements here:

Ambient seawater is needed for rinsing nets and benthic fauna on working deck, and at a benthic mud shunt for sieving operations

PAGE 8**31. Science Equipment and Lab Configuration:****CTD**

[Click here for Healy Station keeping limitations](#)

[x] SeaBird 911 + CTD/Rosette

Use:**Dedicated**

Depth - Min(m):**750** Max(m):**3850**

Approximate Number of casts planned: **30**

[x] Redundant Temperature Sensors

[x] Redundant Conductivity Sensors

[x] O2 Sensor

[x] Wet Labs Transmissometer

[x] Chelsea Fluorometer

[x] Altimeter

[x] 12 Liter external spring Niskin bottles

[] 30 Liter external spring Niskin bottles

Expendable Oceanographic Probes (User supplied)

[] Hull mounted launcher

[] Hand launcher

Number of Launches: **No response**

What probes will you be launching? (checked below)

[] XCTD **[]** XBT **[]** Other:

Science Seawater**Science Seawater**

[x] AutoSal Salinometer

Use:**Occasional**

[x] Seabird 21 Thermosalinograph

Use:**Occasional**

[x] Turner 10AU Fluorometer

Use:**Occasional**

Incubator Seawater (HEALY does not have Ambient temp seawater at flow rates >5gpm)

[x] Incubator ambient temperature seawater

Flow rate:**5gpm**

Please indicate other seawater requirements:

Science seawater needed in scientific labs

Acoustics

[x] Ocean Data BATHY2000 Echosounders

Use:**Occasional**

[x] SEABEAM 2112 Bottom Mapping Sonar (Science Party supplies operator)

Use:**Occasional**

[] RDI 150 kHz BB ADCP (Science Party supplies operator)

Use:

[] RDI 75 kHz BB ADCP (Science Party supplies operator)

Use:

☐ Knudsen 320B/R Echosounder

Use:

☒ Benthos pingers

Use: **Occasional**

☐ EPC 9802 20" Line Scan Recorder

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31. Science Equipment and Lab Configuration: (Cont.)

Lab Equipment

☒ DI Water (18 Mega Ohm)
liters/day required: **30**

☒ Fume Hood (3 available)
Use: **Dedicated**

☒ Walk in Freezer
Use: **Occasional**

☒ Walk in Refrigerator
Use: **Occasional**

☒ -80 °C freezers (2 @ 12 cu ft each)
Use: **Occasional**

☒ Climate Control Chambers (2)
Use: **Dedicated**

☒ Clean/UPS Power (120v, 60Hz, Type 1)

Meteorological

☒ RM Young Wind Sensors (Mech/Ultrasonic)

☒ Terascan Weather Satellite System

☒ RM Young Air Sensors(Temp, Baro, RH etc)

☒ 12 kHz pinger (Benthos/Datasonics)

Communications

☒ Email
Bytes/Day

To Ship: **No response** From Ship: **No response**

☐ Data/FTP
Bytes/Day

To Ship: From Ship:

☒ High latitude satellite connectivity (>73 N)
Bytes/Day from the ship: **1 hour/day**

Explain other communications concerns and requirements:

☒ Iridium Phone
Mins per day: **30**

☒ INMARSAT Phone
Mins per day: **30**

Two groups (teacher at sea, Ocean Exploration team) will submit daily logs back to land. Hours per day still need to be discussed with NOAA funding agency.

Coring

☐ Jumbo Piston Coring
Use:

Number of cores using the 4k core head:
Number of cores using the 5k core head:

Minimum depth:
Maximum depth:

☐ Gravity Core
Use:

Number of cores:

Minimum depth:
Maximum depth: